

## (12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
12 February 2004 (12.02.2004)

PCT

(10) International Publication Number  
**WO 2004/013768 A1**

(51) International Patent Classification<sup>7</sup>:**G06F 17/30**(74) Agent: THIES, Stephan; European Patent Operations,  
Karl-Wiechert-Allee 74, 30625 Hannover (DE).

(21) International Application Number:

PCT/EP2003/007671

(81) Designated States (national): AE, AG, AL, AM, AT, AU,  
AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU,  
CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,  
GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,  
LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW,  
MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC,  
SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA,  
UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(22) International Filing Date: 16 July 2003 (16.07.2003)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

02017045.2

29 July 2002 (29.07.2002) EP

(71) Applicant (for all designated States except US): THOM-  
SON LICENSING S.A. [FR/FR]; 46 Quai A. le Gallo,  
F-92100 Boulogne-Billancourt (FR).

(72) Inventors; and

(75) Inventors/Applicants (for US only): WINTER, Marco  
[DE/DE]; Böhmerstr. 17, 30173 Hannover (DE).  
BLAWAT, Meinolf [DE/DE]; Sutelstrasse 54 C, 30659  
Hannover (DE). JANSSEN, Uwe [DE/DE]; Nieder-  
sachsenstr. 53, 30926 Seelze (DE). LI, Hui [CN/DE];  
Haltenhoffstr. 221, 30419 Hannover (DE). OSTER-  
MANN, Ralf [DE/DE]; Oberstr. 17, 30167 Hannover  
(DE).(84) Designated States (regional): ARIPO patent (GH, GM,  
KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),  
Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),  
European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE,  
ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO,  
SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM,  
GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

## Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guid-  
ance Notes on Codes and Abbreviations" appearing at the begin-  
ning of each regular issue of the PCT Gazette.

(54) Title: DATABASE MODEL FOR HIERARCHICAL DATA FORMATS

20

Value	Primary Key		Type	Level
	Descr#	Word Pos.		
<section>	123	1	element	0
<title>	123	2	element	1
Titanic	123	3	Text	2
<section>	123	5	element	1
<title>	123	6	element	2
Leonardo is swimming	123	7	Text	3
<section>	123	9	element	2
<title>	123	10	element	3
arrow	123	11	attribute	4
down	123	12	Text	4
blub, blub, blub	123	13	Text	4

(57) Abstract: The present invention relates to a method for mapping a hierarchical data format to a relational database management system. It is an object of the invention to provide a method for mapping a hierarchical data format comprising descriptors (1, 10, 11) to a relational database management system capable of handling diverse types of hierarchical descriptors (1, 10, 11) in a fast manner for inserting descriptors (1, 10, 11), reading parts of descriptors (1, 10, 11), reading whole descriptors (1, 10, 11) and performing fast text queries. According to the invention, the descriptors (1, 10, 11) are separated into portions of a common format, which are stored in a relation (20, 21, 22...) in the relational database.

WO 2004/013768 A1